INVINCIBLE AMERICA RESEARCH

EXCHANGES WITH DR DAVID ORME-JOHNSON

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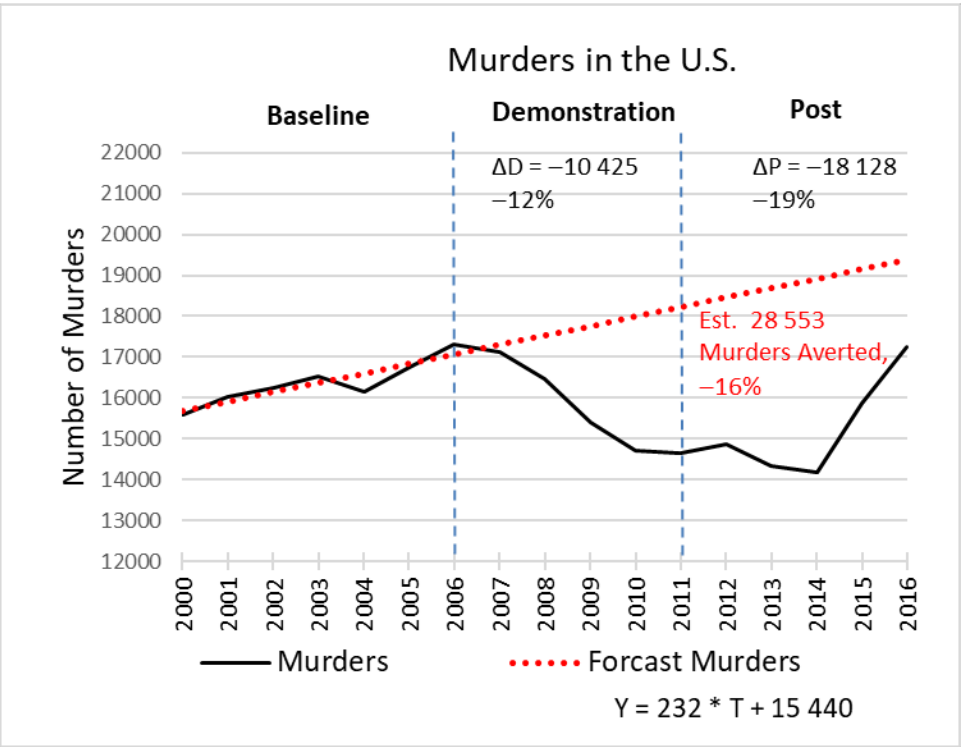
1. David Laird Facebook post- Jan 27 2023

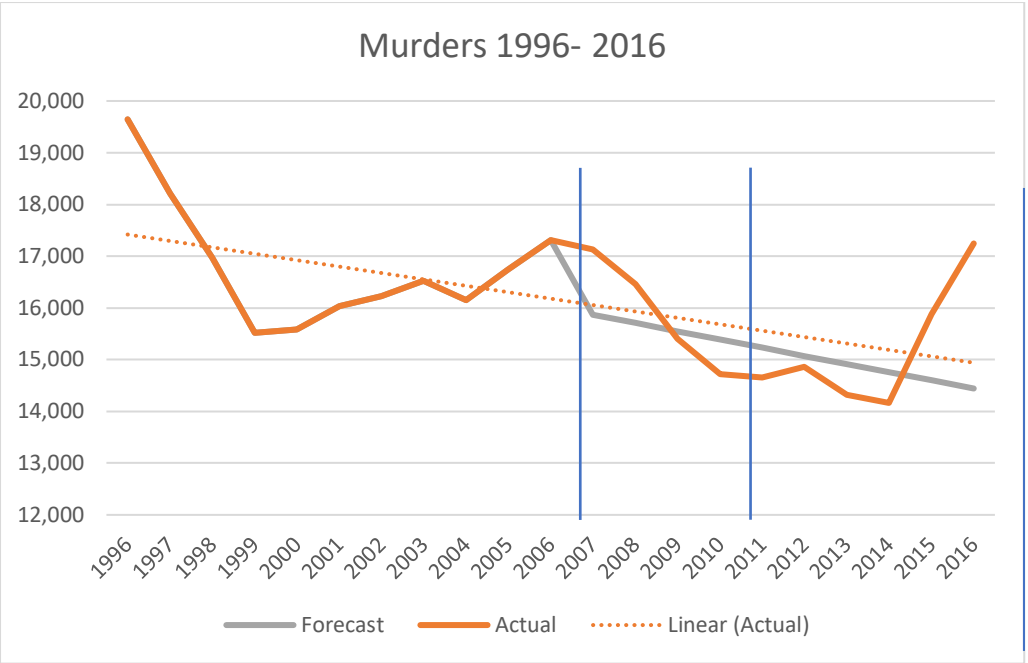
In December last year, an updated version of the Invincible America Assembly research was published. As before, the hypothesis was that when the Fairfield group reached √1% of the US population, the level of stress, as indicated by various crime statistics, would be reduced. While it is clear that overall crime did indeed decline from 2007-2011, the question is: to what extent can the decrease be attributed mainly or exclusively to the Fairfield group?

For me as a non-scientist the research raises as many questions as it claims to answer. Why, for example, do some charts have the demonstration period begin in 2006, while others show 2007 as the start point? Spivak and Saunders make it clear in their book "An Antidote to Violence" that the experimental period started in January 2007 and ended in 2010. I am surprised this anomaly was not picked up by the editors of the *World Journal of Social Science* or during peer review.

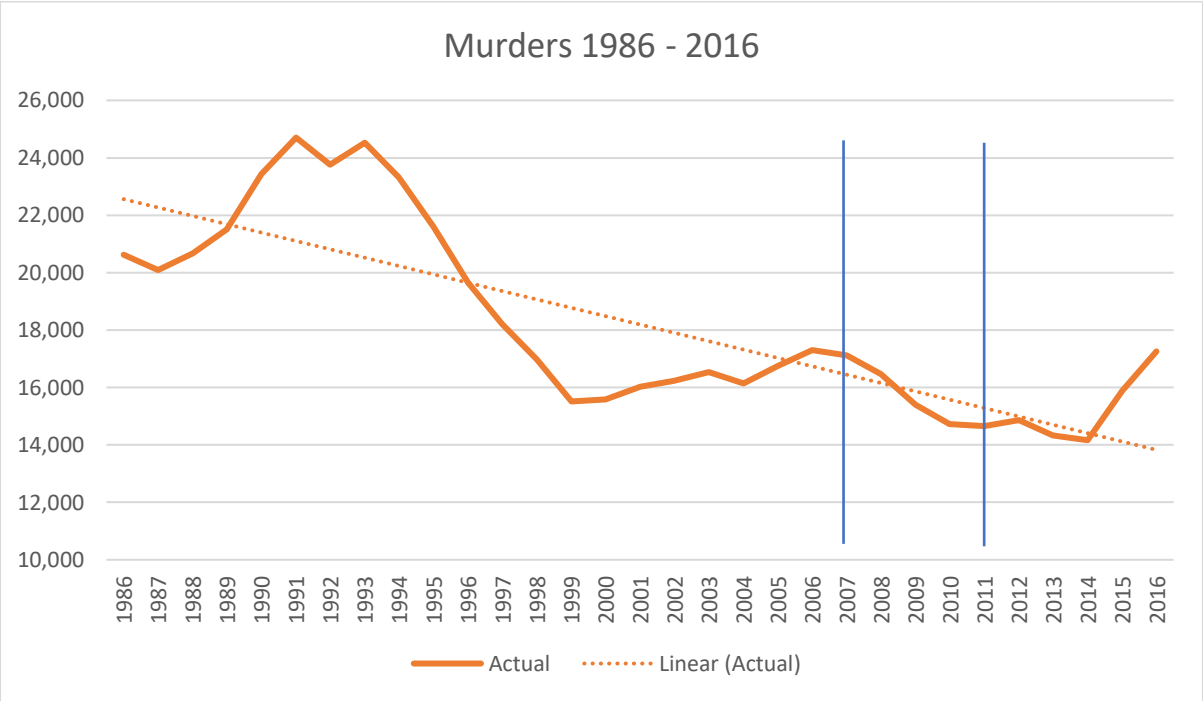
More seriously, the researchers regularly use a minimum of baseline data for forecasting purposes, which significantly influences the interpretation of the data.



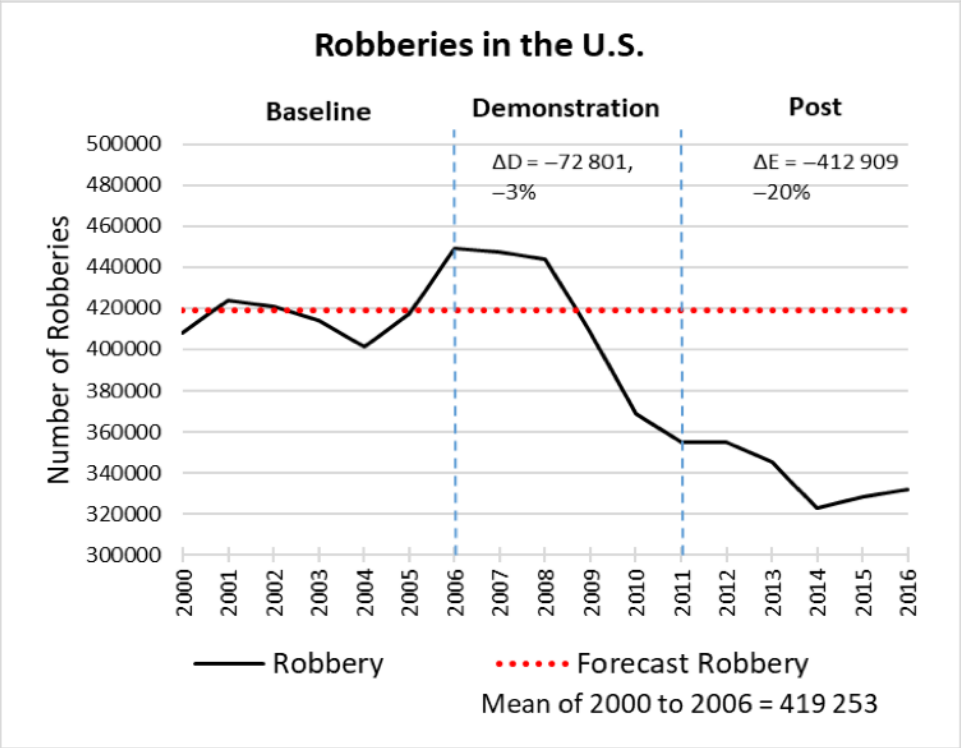
For example, it is evident from the chart above that murders between 2007 and 2011 fall significantly below the forecast. But what happens if the baseline period starts in 1996 instead of 2000? Using the same methodology as the original study, the slope - indicating the annual change in murders - changes from +232 to -158, which means that the trendline is now moving down rather than up. The chart below demonstrates that, instead of showing a decline against forecast, the numbers are now roughly in line with previous trends. As a result, the claim of 28,000 murders averted becomes difficult to sustain.



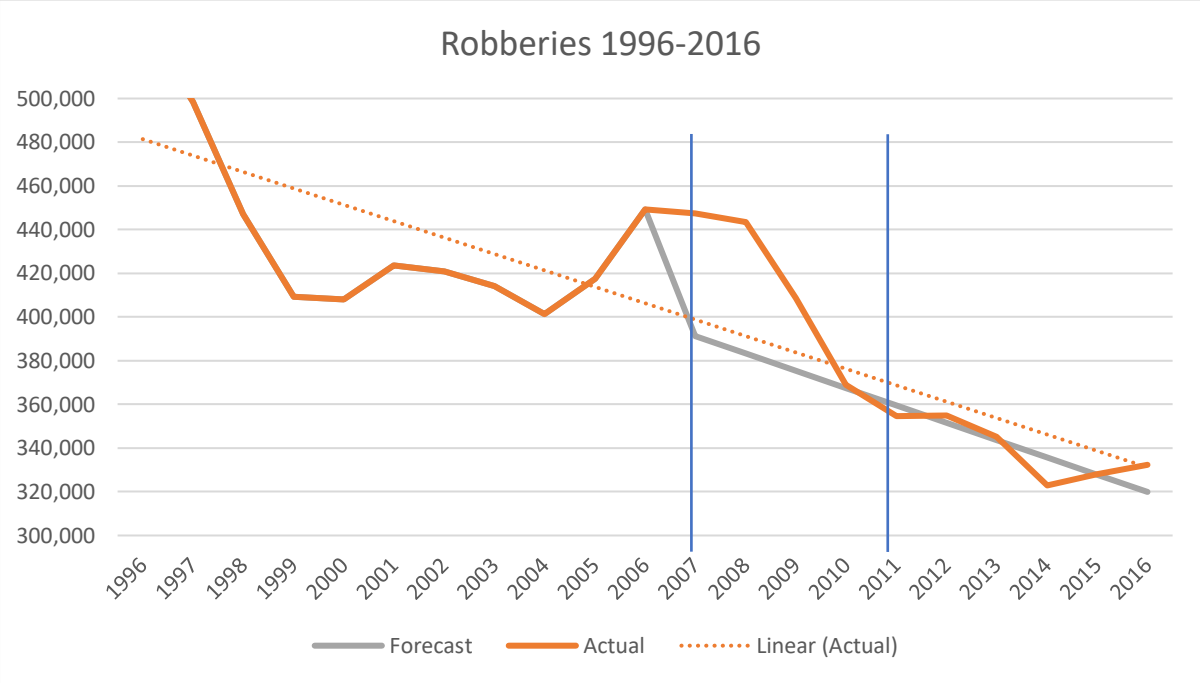
Why did the researchers decide to use only six years to create a baseline when several decades of data are available? In *Applied Time Series Analysis for the Social Sciences*, McCleary et al. argue that between 20 and 50 observations are needed for accurate estimation. If we go back still further to 1986, the results in the demonstration period are almost exactly in line with the overall 30-year trendline, so it is by no means obvious that the sidhi group represented a significant intervention.



Extending the baseline also changes the picture if we look at robberies. The chart below from the research paper uses a 6-year trendline to forecast annual robberies in the vicinity of 420,000.

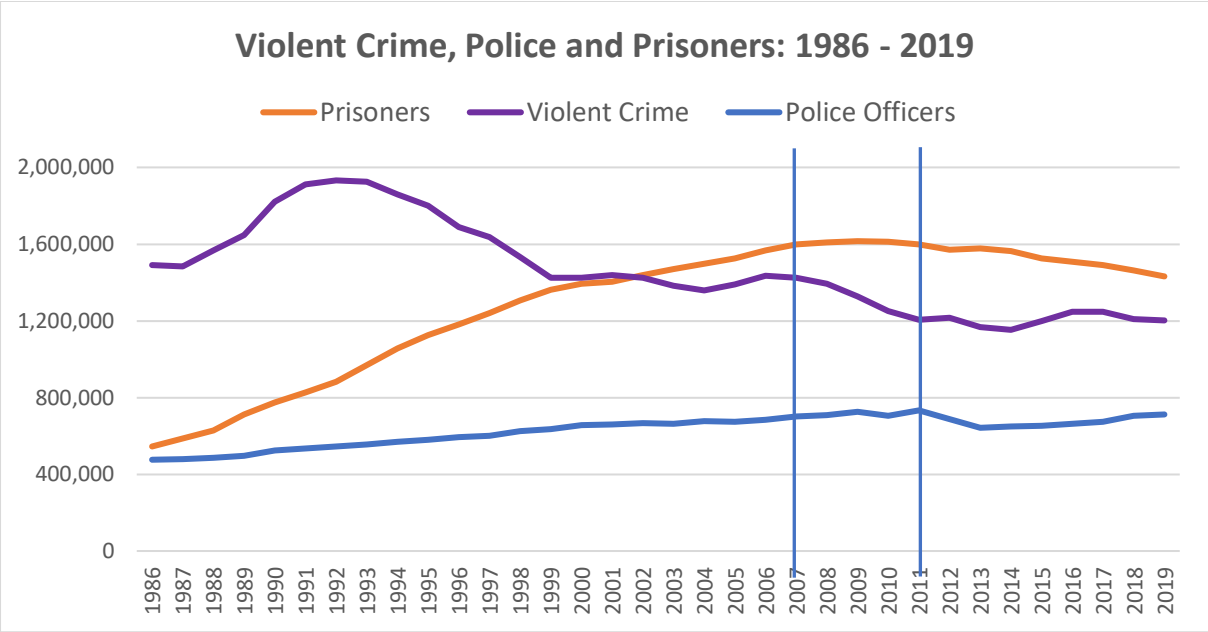


However, looking at a 20-year period, the trendline is clearly downwards, not flat. During the demonstration period, the number of offences actually exceeded the declining trendline by some margin, while the post-demonstration numbers were broadly in line with it. Once again, there was no significant reduction in offences.



According to FBI statistics, violent crime in the US has shown a steep and steady decline since the early 1990s:

Researchers would normally be expected to explain why the 2007-2010 data should be viewed as exceptional rather than part of this long-term trend, especially as there are other extremely plausible reasons for the decline. In 2004 Steven D. Levitt examined potential causes of the dramatic fall in crime in the 1990s. He concluded that two of the most significant factors were the size of the prison population and the number of police officers. A quick look at the statistics makes his point: crime goes down as the number of prisoners and police officers goes up:



However, the researchers summarily dismiss such alternative explanations: "Other factors that influence crime, such as police strategies, prison populations, and use of surveillance technology, are not viable explanations for the scale of the changes in crime trends during this study." At the very least shouldn't there be some data to support the rejection of what appears to be an extremely credible interpretation?

None of this is to imply that the research itself is fundamentally flawed: as far as I can tell, it faithfully reflects the methodology that the researchers chose to employ. However, every researcher brings a certain set of habits, assumptions and preferences - expectations, even - to the processing and interpretation of data. My sense is that a different team of researchers might well have viewed the data in a broader context and adopted a more cautious approach in reaching their conclusions.

There's a saying amongst researchers that if you torture the data long enough, it will confess to anything. The fact that all studies on the Maharishi Effect and Extended Maharishi Effect have been conducted exclusively by researchers intimately involved with the TMO means that particular care needs to be exercised to eliminate suspicion of bias. How many people trust research into the effects of smoking funded by the tobacco industry? And how much confidence do people have in the results of drug trials sponsored by pharmaceutical companies?

Carl Sagan once said that extraordinary claims require extraordinary evidence. I remain unconvinced that the evidence presented so far in support of the Extended Maharishi Effect - which surely qualifies as an extraordinary phenomenon! - can bear the heavy weight of the claims. There is more work to be done before the science on this particular phenomenon can be said to be settled. My hope is that any further research will be conducted in collaboration with truly independent researchers in order to meet the exacting standards of the scientific establishment and the demands of the relevant public bodies.

2. David Orme-Johnson Facebook response - Jan 30 2023

Dear David Laird and Fellow Governors,

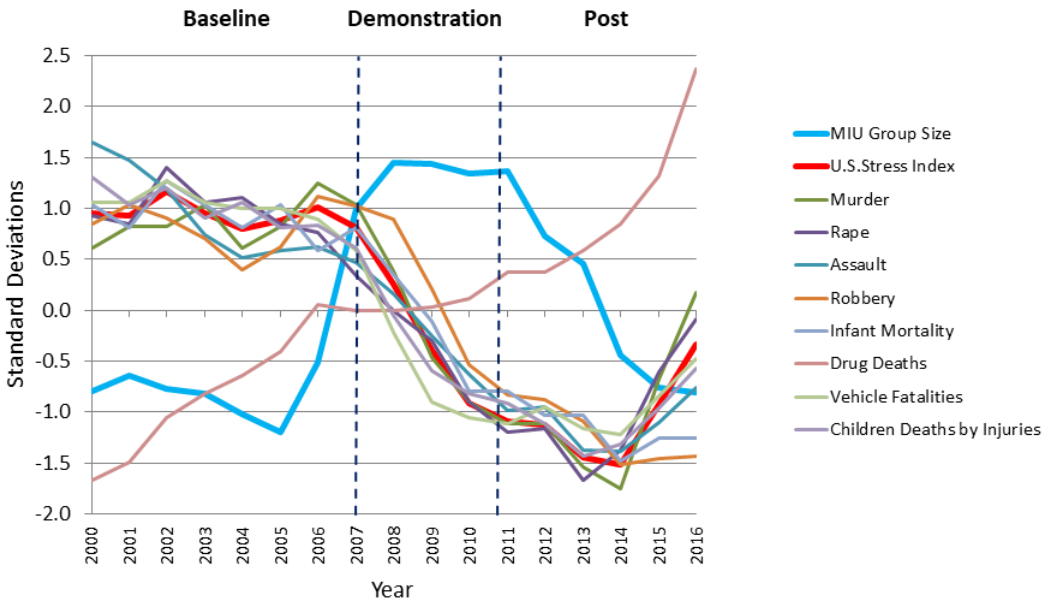
Thank you for your discussion of the Maharishi Effect, which raises some important points that we need to consider.

First, in reply to the point of where the Baseline begins in the charts on the regressions: the Baseline is from 2000 to 2006. Therefore the regression line begins at 2006, the last year of the Baseline. The first year of the Demonstration is 2007. For purposes of graphic display, it made more sense to set the line for the regressions at 2006.

As you have noted, we defined the three periods, Baseline, Demonstration, and Post, in terms of the size of the group over that span of 17 years, consistent with our five previous publications on the IAA. The Baseline is the seven-year period prior to the Demonstration. The results are highly relevant to what was going on during that time span, with remarkable simultaneous decreases in all stress markers, and then their simultaneous increase again when our numbers fell below threshold. All measures were objective public data from the FBI and CDC. We carefully considered all possible alternative explanations in terms of what is known about those variables and did not find any other viable explanation for this phenomenon.

Figure 2

MIU Group Size and U.S. Quality of Life Indices



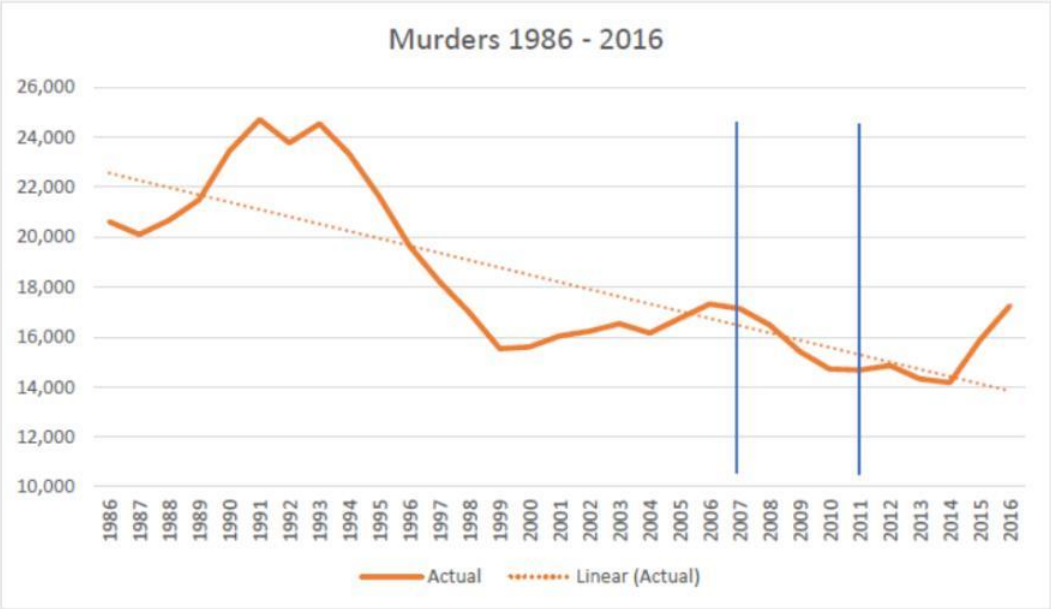
As Thomas Kuhn, the famous philosopher of science has pointed out, in the case of un-Orthodox hypotheses, it is incumbent upon the critic to find an alternative explanation. Do you have one?

Now, consideration of a longer baseline, which is very important. As you show in some of your graphs, with a longer Baseline the drop in murder and robberies during 2007 to 2011 is not unique (see chart for murder, above). There was a long decline in murders starting in 1993. Did anything

important happen in 1993? Well, for one thing we had our Washington Demonstration project with 4,000 fliers. The population of the United States at that time was 256 million. The square root of

1% of that is 1600. 4000 is 2.5 times the US SuperRadiance number at the time. The drop in murders at that time is consistent with our theory, but that demonstration only lasted a few weeks and does not explain the long decline in murders over seven years, as shown in the figure. What else was going on that might be relevant? Other large groups around the world might have contributed to this decline. This decline does not deny the definite effect during the Demonstration period (2007-2011) and its reversal.

To properly assess the effects of our SuperRadiance programs over that longer time span, we need to use segmented-trend regression methodology with Box- Jenkins Autoregressive Moving Average (ARIMA) modeling of regression errors to model the trends in the dependent variables. Linear regression is not appropriate for long time series data because it will have cycles and trends that need to be accounted for. The assumption of linearity cannot be met. In our most recent study with a shorter baseline we also use segmented ARIMA trend analysis, which



gave basically the same results as the linear regression. We use the linear regression for display purposes because it makes the results so obvious.

What is needed to assess the relation of the Maharishi Effect for the longer data set is a time series of all SR groups in all the places around the world over that span of time, specifying how big the groups were, how long they lasted, and where they were located. Unfortunately, we have not been able to get those numbers. We need the information for everywhere in the world because in considering the coherence level of any particular country, one needs to know the "background radiation" level of coherence coming from other countries in the world. It’s a complex situation.

Piecing together what we do know, we see evidence that appears to support our hypothesis. For example, if there is a group of 8000 for the whole world, that group would be predicted to have an influence on the US and everywhere else. We know that there was such a large group in Noida near Delhi in the late 1980s. In 1989 the Soviet Union opened up to TM, and a group of TM teachers (me included) taught thousands in Moscow and Yerevan, Armenia, which quickly resulted in teachers going to all of the Soviet republics and teaching thousands more there, as well as teaching the TM-

Sidhi techniques, forming groups and holding teacher training. This all happened from 1990 through 1993, and you can see on the graph of US murders that the rising trend flattened out and then started dropping in 1993, when we held the DC Demonstration, and other things happening, such as Mothe Divine locating to S. Fallsburg, NY.

[Here DOJ inserts several images of various coherence groups]

As you know, the central focus of our movement is trying to create large groups for the whole world on every continent, and again, exactly how that is progressing is confidential for security reasons.

The point of showing you all this is that there is lot going on that we do not know that needs to be taken into account when assessing the effects in the US. The IAA gave us the best shot of a clean contrast between periods for a quantitative assessment of the effect over that 17-year period. Results are very clear. The effect created was reversed by the changes in size of the IAA group.

We are currently trying to gather data on the history of the ME world wide, and more urgently, data on what is happening with groups now. Many have predicted that in the coming years there will be a collapse of the world Order, due to population demographics, geography, and climate change. But they cannot predict what the new world order will be.

Our prediction is that it will be the Global Country of World Peace, due to large groups being formed on every continent. What will have to change in coming years for each country to thrive and evolve is very complex. Our general prediction is that whatever the effect of increasing mutual respect and cooperation would have on that system, that is what will happen. It will be very surprising that countries are acting differently from what they did in their past. This is based in the 50 studies on the ME we have so far. We hope to get the information on all the groups so we can do bigger more comprehensive studies. But the effect is rapidly evolving now, and it doesn't rest on the scientific research for it to happen. We scientists are only trying to catch up to document it, as we have been for almost 5 decades now.

This exercise has been very useful and thank you for your questioning. I have seen this question of a longer baseline before, and we will continue to try to get the information needed to address it more quantitatively. But Nature is not waiting for that. It's happening.

You may be interested in a new article just published in Thrive Global. Thrive Global is a magazine dedicated to providing the best science-based programs for beating burnout for individuals and organizations. It was founded by Arianna

Huffington, who is also the cofounder of HuffPost. According to their website, they partner with 170,000 employees around the world and 301,305 people follow them.
This article differs from previous ones on our paper in that I took a personal approach to telling the story of our research, which I hope made it more interesting. Here is a link:
A Seventeen-Year Landmark Study Finds that Group Meditation Decreases National Stress.

Enjoy.
Jai Guru Dev,
David

3. David Laird FB comment on David Orme-Johnson's post - Jan 31 2023

In your comments you write: *"As Thomas Kuhn, the famous philosopher of science has pointed out, in the case of un-Orthodox hypotheses, it is incumbent upon the critic to find an alternative explanation. Do you have one?"*

Actually, I have several. My original post referred to the paper by Steven D. Levitt, in which he pointed to incarceration rates and police numbers as two of the most significant factors.
(Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not Journal of Economic Perspectives—Volume 18, Number 1—Winter 2004—Pages 163–190)

In addition, a quick browse through the JSTOR library revealed the following potential causes:

1. Risk of punishment

"In general, punishment severity (sentence length and time served, for example) did not vary over the period investigated in this study, while punishment risk did: most notably both arrest and conviction rates rose. As the risk of legal punishment rose, crime fell, which suggests, but by no means proves, a causal connection."
Crime and Punishment in the United States, 1981-1999 Author(s): Patrick A. Langan
Source: Crime and Justice, 2005, Vol. 33, Crime and Punishment in Western Countries, 1980-1999 (2005), pp. 123-159

2. Demography and incarceration rate

"We have estimated the impact of demographic structure, incarceration and abortion on crime rates. Unfortunately, due to weak instruments, we cannot provide reliable evidence on the causal effects of migration and unemployment rates... We uncovered two significant causal channels, though: both the demographic structure of the population and the incarceration rate have non-negligible influence on crime rates."
Crime in Europe and the United States: dissecting the 'reversal of misfortunes'
Author(s): Paolo Buonanno, Francesco Drago, Roberto Galbiati, Giulio Zanella, Jerome Adda and Bas Jacobs
Source: Economic Policy, July 2011, Vol. 26, No. 67 (July 2011), pp. 347, 349-385

3. Inflation

"Among the economic indicators, only inflation has consistent and robust short- and long-run effects on year-over-year change in the offense types under consideration. Low inflation helps to explain why acquisitive crime did not increase during the 2008–2009 recession. Imprisonment rates also have robust long-run effects on change in acquisitive crime rates."
Acquisitive Crime and Inflation in the United States Author(s): Richard Rosenfeld and Aaron Levin
Source: Journal of Quantitative Criminology, September 2016, Vol. 32, No. 3 (September 2016), pp. 427-447

4. Wages and unemployment
"The labor market prospects of young, unskilled men fell dramatically in the 1980s and improved in the 1990s. Crime rates show a reverse pattern: increasing during the 1980s and falling in the 1990s. Because young, unskilled men commit most crime, this paper seeks to establish a causal relationship

between the two trends...We conclude that both wages and unemployment are significantly related to crime, but that wages played a larger role in the crime trends over the last few decades. These results are robust to the inclusion of deterrence variables, controls for simultaneity, and controlling for individual and family characteristics."
Crime Rates and Local Labor Market Opportunities in the United States: 1979-1997 Author(s): Eric D. Gould, Bruce A. Weinberg and David B. Mustard
Source: The Review of Economics and Statistics, Feb., 2002, Vol. 84, No. 1 (Feb., 2002), pp. 45-61

5. Walmart

"Using various data sources and propensity-weighted multilevel modelling, this paper explores the 'Wal-Mart effect' on crime. Concentrating on the 1990s, results reveal that Wal-Mart is located in United States counties with higher crime rates, net of robust macro-level correlates of crime. Wal-Mart selected into counties primed for the 1990s crime decline, but, after accounting for endogeneity, growth of the company stunted crime declines when compared to matched counties. A Wal-Mart-crime relationship exists. If Wal-Mart did not build in a county, property crime rates fell by an additional 17 units per capita from the 1990s to the 2000s. A marginally statistically significant, yet stable, effect for violent crime was also observed, falling by two units per capita."
Rolling Back Prices And Raising Crime Rates? The Walmart Effect on Crime in the United States Author(s): Scott E. Wolfe and David C. Pyrooz
Source: The British Journal of Criminology, March 2014, Vol. 54, No. 2 (March 2014), pp. 199-221

Clearly, some of these explanations are more persuasive than others. Nevertheless, all have found their way into peer-reviewed journals and demand to be taken seriously, so I feel your contention that other factors are 'not viable explanations' somewhat puzzling. Is there some flaw in these and other papers that render their conclusions invalid?

4. David Laird email to David Orme-Johnson - Feb 23 2023

I have been able to replicate all of the charts you produced and the only major issue I have is with this statement*: "Potential alternative explanations in terms of changes in economic conditions, political leadership, population demographics, and policing strategies could not explain the results."*

As I pointed out in my response to your post on the NextGen FB group, there are a number of studies that link various crimes closely to levels of prison population and police numbers. The relationship from both a statistical and theoretical standpoint seems to me inarguable.

Other papers indicate a strong relationship between unemployment/recession and both vehicle fatalities and child/adolescent injury deaths (which of course overlap). And there is also evidence that infant mortality is closely linked to both fertility rates and female education. None of this implies that the Maharishi Effect plays no role in the reduction of stress factors. Indeed, in my calculations the correlation with both rape and vehicle fatalities is particularly strong. However, I would be cautious about discounting other factors too quickly.

Thank you once again for providing such detailed information and good luck with future projects.

Kind regards,
David

5. David Orme-Johnson email to David Laird - Feb 23 2023

I have replied to your comments in-line below.

"I have been able to replicate all of the charts you produced and the only major issue I have is with this statement: "Potential alternative explanations in terms of changes in economic conditions, political leadership, population demographics, and policing strategies could not explain the results."

As I pointed out in my response to your post on the NextGen FB group, there are a number of studies that link various crimes closely to levels of prison population and police numbers."

As we pointed out in our paper and in previous papers, release from prisons was unusually high during our demonstration, predicting increased crime. In fact we found crime decreased during the demonstration, the opposite of what would be predicted by changes in prison populations or police numbers.

"The relationship from both a statistical and theoretical standpoint seems to me inarguable. Other papers indicate a strong relationship between unemployment/recession and both vehicle fatalities and child/adolescent injury deaths (which of course overlap)."

As we said in our paper and previous papers, our demonstration occurred during a period of high unemployment/recession, which would predict more crime, more vehicle fatalities, and more child/adolescent injuries. But in fact, what happened during our demonstration was the opposite of this predicted relationship. We found decreased crime, decrease vehicle fatalities and decreased child/adolescent injuries.

In addition, there were no nationwide changes in policing strategies and at that time.

With regard to political leadership, the change in national administration, the election of Pres. Obama, could not explain the results. Pres. Obama took office two years after the beginning of our demonstration. He left office two years after our demonstration was over. This shows that the onset and offset of changes in social indicators was not correlated with the onset and offset of the Obama administration.

"And there is also evidence that infant mortality is closely linked to both fertility rates and female education. None of this implies that the Maharishi Effect plays no role in the reduction of stress factors. Indeed, in my calculations the correlation with both rape and vehicle fatalities is particularly strong. However, I would be cautious about discounting other factors too quickly."

Thank you for your vigilance and close consideration of our work. It is very important in purifying to have outside critical analysis.

I am again sending you two new papers on murder rates and drug related fatalities that consider alternative explanations extensively. Please note that in the case of drug related deaths, the main cause of all alternative explanations is reduction of prescriptions written by physicians. This could not explain the results.

Another possibility is that physicians became more aware of the dangers of opioids and began reducing opioid prescriptions during the 2007–2011 demonstration period. However, the peak for doctor prescription of opioids was in 2011, and only from 2012 through 2020 did physicians reduce their rate of prescribing opioids. This reduction did not

result in a decline in drug-related fatalities [4] and dfr returned to its rapidly rising trend in the follow-up period 2012–2016.

Jai Guru Dev,
David

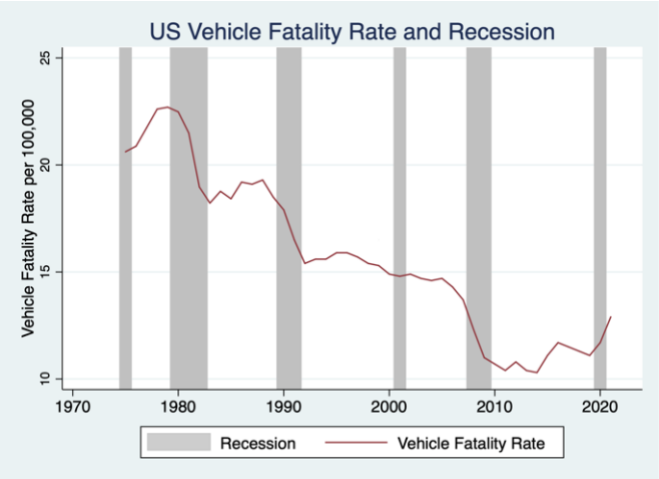
6. David Laird email to David Orme-Johnson - March 7 2023

A few points in response to comments in your last email.

"As we said in our paper and previous papers, our demonstration occurred during a period of high unemployment/recession, which would predict more crime, more vehicle fatalities, and more child/adolescent injuries. But in fact, what happened during our demonstration was the opposite of this predicted relationship. We found decreased crime, decrease vehicle fatalities and decreased child/adolescent injuries."

The notion that high unemployment and recession predict more vehicle fatalities is at odds with the evidence. A report issued by the National Highway Traffic Safety Administration (NHTSA) in 2010 states: "...the large drop in fatalities in 2008 and 2009 has coincided with a recession in the U.S. economy... Analysis of the FARS crash data shows that the previous two largest drops in fatalities also occurred during times of recession." (An Analysis of the Significant Decline in Motor Vehicle Traffic Fatalities in 2008 NHTSA, June 2010)

The inverse relationship of recession/unemployment and vehicle fatalities can be seen in these charts:



	veh	unemploy
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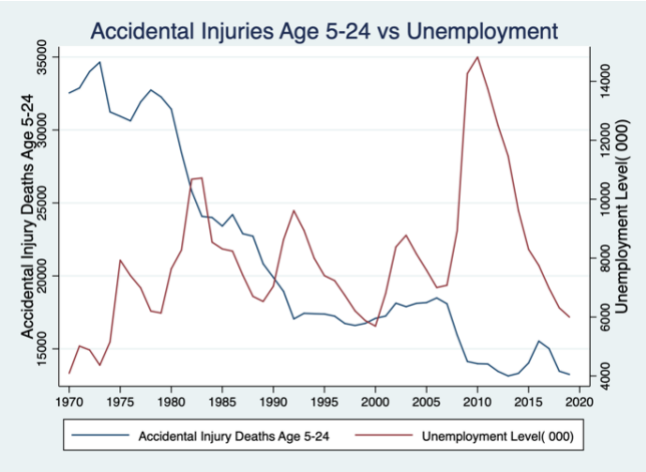
	36	
unemploy	-0.6553*	1.0000
	0.0000	
	36	445

See also: Driving through the Great Recession: Why does motor vehicle fatality decrease when the economy slows down? Monica M. He, Social Science & Medicine, Volume 155, April 2016

There is also a significant negative correlation between unemployment and child/young adult accidental deaths (as a proxy for Child and Adolescent Injury Deaths, for which no data is available prior to 1999).

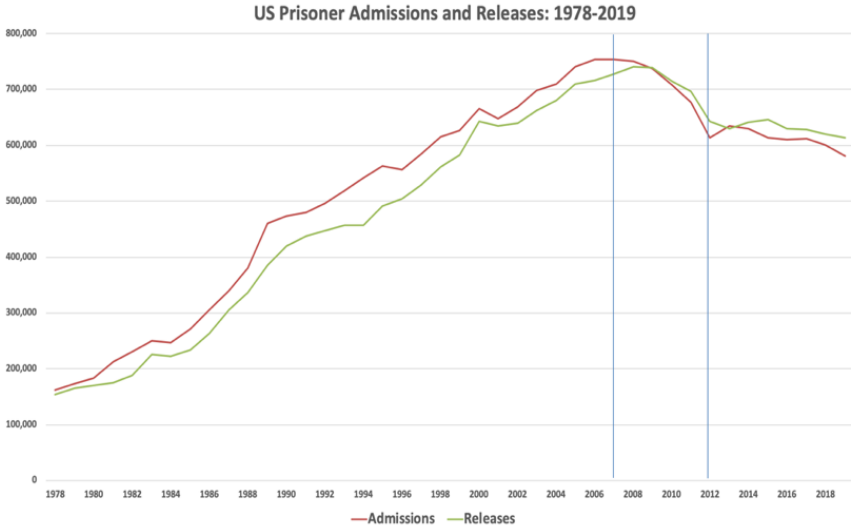


	acc	unlevel
acc	1.0000	
	51	
unlevel	-0.4865*	1.0000
	0.0003	
	51	53

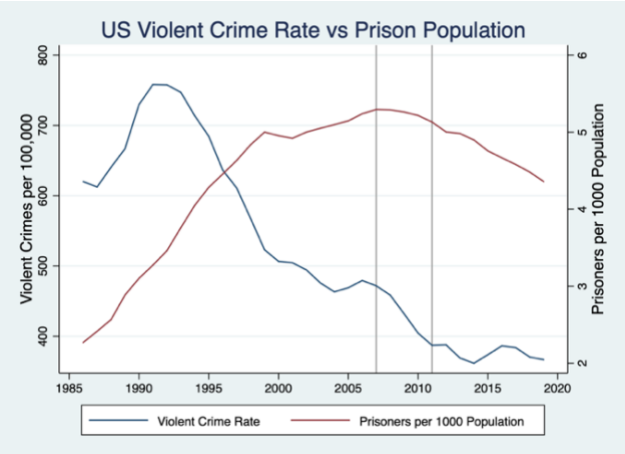
The argument that decreased vehicle fatalities and lower child/adolescent injury deaths during the demonstration period are exceptional is therefore difficult to sustain. The situation with crime is less clear. There is some evidence that supports a link between recession and property crime, but not with violent crime.
See: Crime and the Business Cycle, Philip J. Cook and Gary A. Zarkin, The Journal of Legal Studies Vol. 14, No. 1 (Jan., 1985)

"As we pointed out in our paper and in previous papers, release from prisons was unusually high during our demonstration, predicting increased crime. In fact, we found crime decreased during the demonstration, the opposite of what would be predicted by changes in prison populations or police numbers."

It is true that release from prisons reached a peak during the demonstration period. However, Bureau of Justice National Prisoner Statistics show that admissions also peaked at around the same time, so there was virtually no net change in prison population from 2007-2011. In fact, between 2008 and 2010 the US prison population was at, or close to, an all-time high.



Based on existing trends, decreased crime is exactly what would have been predicted.



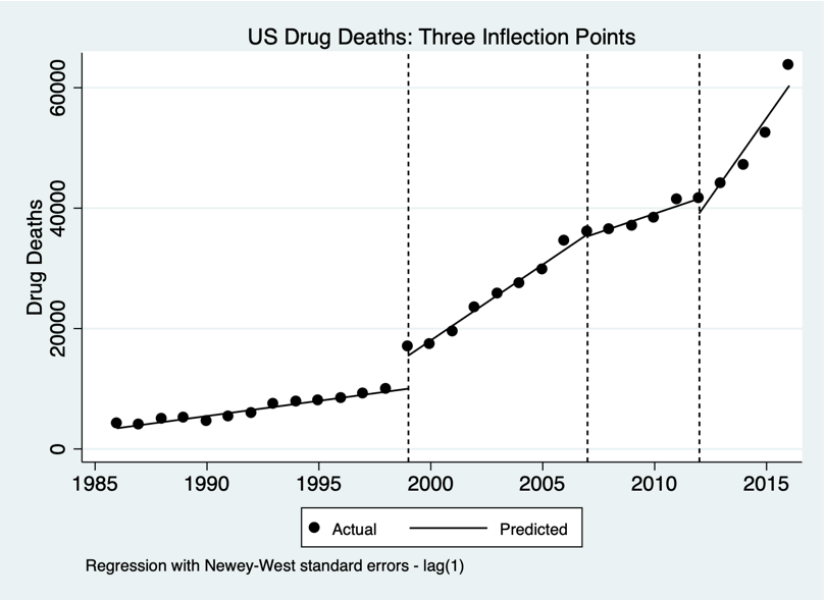
	vio_rate	prison~e
vio_rate	1.0000	
	34	
prison_rate	-0.6829*	1.0000
	0.0000	
	34	34

See also:

- Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not, Steven D. Levitt, Journal of Economic Perspectives, Volume 18, Number 1, 2004
- Crime and Punishment in the United States, 1981-1999, Patrick A. Langan, Crime and Justice, 2005, Vol. 33, Crime and Punishment in Western Countries, 1980-1999 (2005), pp. 123-159

"I am again sending you two new papers on murder rates and drug related fatalities that consider alternative explanations extensively."

I have not yet had time to process the new paper on murder rates. Regarding drug fatalities, there are three clear inflection points since 1985: 1998, 2006 and 2011.



<u>1998</u>

Several papers have made a compelling case that the steep increase in deaths starting in 1998 came as a result of the Oxycontin-driven prescription opioid wave. For example:

- *When Innovation Goes Wrong, David M. Cutler and Edward L. Glaeser, The Journal of Economic Perspectives, Vol. 35, No. 4 (Fall 2021)*
- *Backstories on the US Opioid Epidemic. Good Intentions Gone Bad, an Industry Gone Rogue, and Watch Dogs Gone to Sleep, Richard D. deShazo, McKenzie Johnson, Ike Eriator, Kathryn Rodenmeyer, The American Journal of Medicine, February 03, 2018*

<u>2011</u>

In addition, there is substantial evidence that the dramatic increase in fatalities starting in 2011 resulted from users of prescription Oxycontin switching to more dangerous non-prescription alternatives (initially heroin, then fentanyl) because Purdue changed the formula to make the drug less vulnerable to abuse. Some relevant papers include:

- *Increased use of heroin as an initiating opioid of abuse, Theodore J Cicero, Zachary A Kasper, Matthew S Ellis, Addictive Behaviors, Volume 74, November 2017*
- *Abuse-Deterrent Opioids and the Law of Unintended Consequences, Jeffrey A. Singer, Cato Institute (2018)*
- *Effect of restricting the legal supply of prescription opioids on buying through online illicit marketplaces, James Martin, Jack Cunliffe, David Décary-Hétu and Judith Aldridge, British Medical Journal, 11 Jun 2018 - 17 Jun 2018*
- *Overdosing on Regulation: How Government Caused the Opioid Epidemic, Jeffrey Miron, Greg Sollenberger and Laura Nicolae, Cato Institute (2019)*

<u>2007</u>

By contrast, the slower growth in fatalities starting in 2007 has received little or no comment in the scientific press or official documents. Apart from the Maharishi Effect, I could find no other

explanations. However, in order to make the theoretical case for the Maharishi Effect, you would have to offer an alternative rationale for the post-2011increase in addition to the 2007 slowdown.

Given the number of published papers that offer alternative explanations for fluctuations in the factors that comprise the Stress Index, I believe it may be counterproductive for MIU researchers to reject other possible scenarios without supplying hard evidence There could well be weaknesses of process or interpretation in all these studies, but if so, I think it is essential to point out precisely where they fall short, and not summarily dismiss them. The following table of regression coefficients from Monica M. He's paper on *Driving through the Great Depression* offers one possible template for acknowledging and evaluating alternative explanations:

Table A2

Regression Coefficients (SE) for the Relationship between State Unemployment Rate and MV Fatality Rates by Crash Type with Controls, 2003–2013

	Large Trucks	No LargeTrucks	Speeding	Non-Speeding	Drunk Driving	NonDrunk Driving	Single-Vehicle	Multi-Vehicle	Rural	Urban
Unemployment Rate	−0.0837***	−0.0207	−0.0503*	−0.0201	−0.0362**	−0.0254*	−0.0202	−0.0406*	−0.0174	−0.0457*
	(0.021)	(0.011)	(0.020)	(0.013)	(0.014)	(0.011)	(0.011)	(0.016)	(0.013)	(0.019)
Beer Tax (in 2013 $)	0.1023	−0.0262	−0.0644	0.0182	−0.0460	0.0250	−0.0273	0.0420	−0.0060	0.0730
	(0.125)	(0.048)	(0.134)	(0.056)	(0.058)	(0.064)	(0.048)	(0.085)	(0.067)	(0.095)
Gas Prices (in 2013 $)	0.3876*	0.0879	−0.0388	0.2127*	0.0683	0.1280	−0.0071	0.2744*	0.1450	−0.1070
	(0.170)	(0.069)	(0.208)	(0.088)	(0.134)	(0.075)	(0.076)	(0.123)	(0.143)	(0.162)
Texting Ban	0.0199	0.0150	0.0449	−0.0015	0.0310	0.0269	0.0290	0.0069	−0.0007	0.1095
	(0.047)	(0.021)	(0.065)	(0.029)	(0.034)	(0.024)	(0.025)	(0.028)	(0.042)	(0.077)
Handheld Ban	−0.0182	−0.0363	0.1147	−0.0747	−0.0191	−0.0626	−0.0256	−0.0681	−0.0958	−0.0533
	(0.066)	(0.039)	(0.156)	(0.041)	(0.053)	(0.038)	(0.041)	(0.052)	(0.056)	(0.065)
BAC Limit	−0.0221	−0.0217	0.0362	−0.0566	−0.0161	−0.0212	−0.0154	−0.0091	0.0476	−0.0944
	(0.096)	(0.057)	(0.100)	(0.045)	(0.060)	(0.053)	(0.061)	(0.044)	(0.068)	(0.083)
Seatbelt Law	0.0268	−0.0118	−0.0433	−0.0017	−0.0412	−0.0024	−0.0203	0.0004	−0.0229	−0.1096
	(0.052)	(0.026)	(0.051)	(0.032)	(0.037)	(0.027)	(0.032)	(0.027)	(0.049)	(0.062)
GDL	0.0313	0.0167	0.0447	0.0112	0.0273	0.0049	0.0222	0.0068	0.0111	0.0524
	(0.040)	(0.022)	(0.065)	(0.028)	(0.034)	(0.022)	(0.025)	(0.026)	(0.042)	(0.041)

You might wish to consider adding something along these lines to future reports in order to demonstrate exactly why other factors have been discounted.

I also believe that positioning the Maharishi Effect as the *fons et origo* of all positive social change may be counterproductive. It is possible that many academics and public bodies would be more inclined to give credence to the Maharishi Effect if it were positioned as a contributing factor to the decrease in social stress rather than the sole agent. That being said, Maharishi was never one to understate the effectiveness of the various technologies he introduced to the world, and I have no doubt that you and your colleagues are pursuing your work in accordance with his wishes. As before, I wish you every success in your endeavours.

7. David Orme-Johnson email to David Laird - Aug 17 2023

I heard that the discussion of the ME on FB was saying that I didn't reply to your concerns, so I wanted to just send you a quick reply. The gist of it is that there was another time in the 1980s when total violent crime also decreased, as it did during the IAA assembly. I found that this was a period where there was a large group in India in Noida big enough to have a predicted effect on the entire world, and that the US was influenced by the global maharishi effect at that time, which showed up in U.S. data. I plan to do a formal analysis of this and get it published, but I've just been swamped in

what I feel are higher priorities right now, which is a meta-analysis on PTSD in a world that is slipping into war and natural disasters.

All the best,
David

8. David Laird email to David Orme-Johnson - Aug 19 2023

Thank you for your response. I understand that you have a lot on your plate, so I will keep this brief.

I still have two major concerns about the research on the Maharishi Effect.

1. The selected time frames tend to be relatively short, and do not give full weight to long-term trends.

2. More importantly, the published papers make no serious attempt to acknowledge and address alternative explanations for reduction in the factors comprising the Stress Index.

In my previous email, I suggested that future papers should follow the example set by Monica M. He in *Driving through the Great Depression*, where she sets out the regression coefficients for the relationship between unemployment rate and vehicle fatalities, controlling for gas prices, texting ban, seatbelt law etc. The table (attached) clearly shows that unemployment rate is the main driver, while at the same time recognising that some other factors also have statistical significance.

In a broader context, you may be aware that the integrity of academic research in general is currently under scrutiny I am also attaching an article by Matt Ridley – a former science editor at The Economist and winner of the Hayek Prize - which details the major issues, including lack of rigour at many journals, the questionable value of peer reviews, the preoccupation of researchers with maintaining funding and the prevalence of ‘p-hacking’. The clear suggestion is that research in an increasing number of areas is being driven more by ideology and self-interest than by science.

This represents a major challenge for you and your fellow researchers at MIU because of your close identification with the theoretical framework established by Maharishi. The very fact of this connection means that you must exercise extreme caution to avoid any appearance of being motivated or limited in your research by such constraints.

As before, I wish you and you colleagues well in your endeavours.

Kind regards,
David

Table A2

Regression Coefficients (SE) for the Relationship between State Unemployment Rate and MV Fatality Rates by Crash Type with Controls, 2003–2013

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BAC Limit	−0.0221	−0.0217	0.0362	−0.0566	−0.0161	−0.0212	−0.0154	−0.0091	0.0476	−0.0944
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Science fiction: the crisis in research

Matt Ridley

The president of Stanford University, the neuroscientist Marc Tessier-Lavigne, has announced his resignation following an investigation into allegations of fraud and fabrication in three of his lab's scientific papers, including one cited as the most important result on

Alzheimer's disease in 20 years. The report exonerated him of committing the fraud but found he had failed to correct the errors once they were brought to his attention.

The pandemic provided a glimpse of how far scientists will go to bend conclusions to a preferred narrative

The vast majority of scientists are honest, but recent years have seen many cases of scientific misconduct come to the surface, implying there is a systemic problem. The financial and reputational rewards that come with headline-generating results make research fraud all too tempting. High–profile papers on stem cells, superconductivity, psychological priming, drug efficacy and ocean-heat content have been retracted.

Retraction Watch, an organisation that pushes journals to withdraw dodgy studies, estimates that 5,000 papers are retracted a year but that this is a tiny fraction of how many should be. And they argue that most scientists who retract papers suffer no career setback, while 'the ones whose papers haven't been retracted have even fewer worries'.

Gloriously, in June this year, a study of honesty itself was accused of being dishonest. Professor Francesca Gino of Harvard Business School had claimed that people who signed truthfulness declarations relating to tax or insurance at the top of a page were more honest than those who signed at the bottom of a page. Her co-author says he has been shown 'compelling evidence' of data falsification. Gino denies the accusation and filed a lawsuit against Harvard last week.

Last year the journal *Science* retracted a paper by the marine ecologist Danielle Dixson that claimed rising carbon dioxide levels can alter the behaviour of coral-reef fish. An investigation by the University of Delaware found Dixson had got implausibly strong results in impossibly short time scales. When challenged, she produced data files with 'patterns of copying and pasting [that were] signatures of fabrication and falsification'.

Ivan Oransky and Adam Marcus of Retraction Watch say that most journals are reluctant to retract papers even when a strong case is made. In Tessier-Lavigne's case he did try to pursue corrections to two papers in 2015 but the journals did not publish them. *Cell* said a correction was not necessary; *Science* said it would publish his corrections but then failed to do so. Oransky and Marcus say that *Science* 'has a history of failing to prioritise retractions and not just in this case'. Universities are similarly reluctant to look into frauds that might tarnish their reputations and prefer to investigate secretly if they do.

But outright fraud is only the tip of the iceberg. Exaggerating results is a far commoner reason why scientific publications cannot be treated as holy writ. 'P-hacking' is a widespread issue, where scientists torture their data till it confesses to a statistically significant result, often a chance outcome.

Peer review has become a way of keeping out heretics while waving through true believers

In 2015 John Bohannon published a deliberately misleading study showing that chocolate could cause weight loss and submitted it to multiple journals from a fake institute to see how many would publish it. It was a real study but its design, with a small sample size and a large number of variables tested, was a 'recipe for false positives'. It was accepted within 24 hours by a journal that boasts that it 'reviews all papers in a rigorous way' and published

unchanged. With the help of a press release, it was soon all over the media, for which any diet story is irresistible clickbait.

Data dredging of this kind is probably the main cause of the 'replication crisis': John Ioannidis of Stanford University published a paper in 2005 showing that most published research findings are false. In 2016 a survey by *Nature* of 1,576 researchers found that more than 70 per cent had tried and failed to replicate experimental results from other labs but that journals had proved reluctant to publish such negative studies. Replication is vital to science, as shown by the current rush to test the recent claims of a South Korean team to have found a material capable of being a superconductor at room temperature and pressure.

I once bumped into an academic acquaintance and asked him what he was up to: his answers were all about the grants he had won and the conferences he had attended; nothing about content. The main incentive in organised science is to publish more papers and get more grants. This results in 'salami-slicing' of results to generate more papers. Since the 1990s Chinese scientists have been paid cash bonuses for publishing papers in good journals. One Heilongjiang professor managed to publish 279 papers in five years in a single journal, *Acta Crystallographica Section E*.

An alarming recent example is the case of the 'pangolin papers', four studies hurriedly published in February 2020 conveniently purporting to show that a handful of smuggled pangolins were infected with corona-viruses similar to SARS-CoV-2 in 2019. My co-author Dr Alina Chan of the Broad Institute of MIT and Harvard soon spotted that all four relied on data that had already been published the previous year, and one paper had simply re-described four biological samples under new names.

It took the journal *Nature* six months to print a correction to that paper, in which the authors confessed to multiple errors. By then, the pangolins had done their job through the media to get the public thinking a natural source of the virus had been found – when it had not. (A couple of pangolins might have been infected somehow, but with a different virus.) The editors at *Nature* were either not bothered, or realised that the longer they stalled, the less attention there would be on how they had mismanaged the paper.

As this example shows, the real scandal in science is not the criminal frauds, of which there are always a small number, nor the data dredging and fire-hose publishing, but the gate-keeping, groupthink and bias that politicises some fields of science, turning it into the dogma known as 'the science'. The pandemic provided a glimpse of just how far senior scientists will go to bend conclusions to a preferred narrative and suppress debate.

On the efficacy of masks, whether the Covid vaccines prevented transmission, the effectiveness of lockdowns and the accuracy of epidemiological models and other issues, the scientific establishment proved willing to suppress alternative views. The sceptics on these points were not necessarily all right, but they deserved to be heard.

'In retrospect, maybe it wasn't so smart to hand the keys of public health over to mad-scientist virologists, hypochondriacal epidemiologists and megalomaniacal science bureaucrats,' tweeted Professor Jay Bhattacharya of Stanford Medical School recently. He was one of the authors of the Great Barrington Declaration, calling for focused protection rather than society-wide lockdowns. Regarding that declaration, 'There needs to be a quick and devastating published take down of its premises,' wrote Francis Collins, head of the

National Institutes of Health, to Anthony Fauci, head of the National Institute of Allergy and Infectious Diseases, in October 2020. ‘Is it under way?’ It was.

The most shocking case concerns the ‘Proximal Origin’ paper that shut down the debate on the origin of Covid-19 for the best part of a year. Published by *Nature Medicine* in March 2020, it ruled out ‘any type of laboratory-based scenario’, deceiving me and many others. Emails and Slack messages released by a congressional subcommittee last month show how the five authors of the paper thought in private that several types of laboratory-based scenarios were indeed possible, even ‘friggin’ likely’.

They continued to think this secretly even as they drafted their paper, edited it in response to pressure from ‘higher ups’ and journal editors to make what it said even more dogmatic, then published it and responded to media inquiries, while celebrating its influence. The lead author astonishingly told Congress two weeks ago that publishing one view while thinking the opposite is ‘simply the scientific process’. But the fact that the heads of their main funding agencies were part of the conversation, even suggesting edits, and were keen to (in Collins’s words) ‘put down this very destructive conspiracy’ seemingly influenced what they wrote.

Last month 47 scientists wrote a letter to the editor of *Nature Medicine* requesting retraction of the Proximal Origin paper, and arguing that ‘the authors’ statements show that the paper was, and is, a product of scientific misconduct’. So far the editor, Joao Monteiro, has refused to consider retraction, arguing that it was just an opinion piece, despite the fact that it was peer-reviewed and hailed as a case-closing study.

Ah, peer review, that laying on of hands that renders a profane paper scientifically sacred. In practice, peer review has become less a means of challenging papers than a way of keeping out heretics while waving through true believers. In 2019 the late science writer Sharon Begley exposed how a powerful cabal of professors used peer review to ensure that Alzheimer’s research remained in thrall to the hypothesis that amyloid plaques are a cause rather than a symptom of the disease. Grants and publications were denied to heretics of this faith.

Gate-keeping matters because it is often people from outside the club who bring scandals to light

A common trick, currently being played by the defenders of the Proximal Origin paper, is to say to the heretics: how come you have not published your critiques in a peer-reviewed journal? To which the answer is: because you have used peer review to keep them out. In an egregious case of gate–keeping, Alina Chan wrote a detailed review of the data from the Huanan seafood market in Wuhan, showing that it was unlikely to be the origin of the virus. After nearly two years of peer-review rejections, she asked permission of the latest journal to reject it to publish online the two anonymous reviews, one of which was highly complimentary while the other attacked her credentials and made a series of comically misinformed criticisms. The journal said that publishing the reviews would breach copyright laws.

Most editors of scientific journals took an early and strong line against even considering a lab leak in Wuhan and are now reluctant to publish evidence that they were wrong. The editor of *Science*, Holden Thorp, wrote in response to one highly revealing leaked document: ‘Missteps by researchers and funding agencies… have provided fodder for conspiracy

theorists… None of these miscues says anything substantive about the science and the conclusion that the virus is almost certainly of zoonotic origin.' Open-minded? Not much.

Gate-keeping matters because it is often people from outside the club who bring scandals to light. In 2018 the independent, self-funded British statistician Nic Lewis re-analysed the data behind a paper in *Nature* that had found the oceans were absorbing heat faster than previously thought. Lewis found major flaws in the work, tried in vain to engage with the lead author, and then published his critique on the blog of a retired climatology professor, Judith Curry. Eventually the paper was retracted, largely unnoticed by the media which had lionised it.

The Tessier-Lavigne case was pursued by a first-year Stanford undergraduate, 18-year-old Theo Baker, who wrote for the campus newspaper. On the origin of the virus, many significant findings or critiques came not from professional academics but from unpaid amateurs like Jeet Ray in India, Francisco Ribera in Spain and Gilles Demaneuf in New Zealand, or private-sector scientists like Yuri Deigin in Canada, Alex Washburne in America and Steven Quay in Taiwan.

The pandemic showed how science could be reformed. Many results were posted online as 'pre-prints' before being peer-reviewed. This allowed all of us, expert or otherwise, to analyse the evidence and if necessary tear the conclusions to shreds – without hiding behind anonymity. Some of the best 'peer reviewers' in this public sense were people outside the conflicted priesthood of virology or epidemiology. Such radical transparency will be vital to the reform of science, just as it was to the Church in Martin Luther's day. 'If we are not able to ask sceptical questions, to interrogate those who tell us that something is true, to be sceptical of those in authority, then we're up for grabs for the next charlatan, political or religious, who comes ambling along,' said Carl Sagan.

Matt Ridley is the author of *How Innovation Works: And Why It Flourishes in Freedom* (2020), and co-author of *Viral: The Search for the Origin of Covid-19* (2021)

9. David Orme-Johnson email to David Laird- Aug 21 2023

Thanks for your continued interest in our research. My replies are embedded below.

I still have two major concerns about the research on the Maharishi Effect.

1. The selected time frames tend to be relatively short, and do not give full weight to long-term trends.
I agree that we need to do longer studies and we have one on the way from 1960 to present. Are key finding is that in the 1980s there was a large group in Noida India for several years of a size predicted to influence the entire world, and they were practicing not only the TM and TM Sidhi programs but other Vedic techniques to create coherence in world consciousness. Beginning at that time there was a dramatic change in world consciousness, which was reflected in the US as a reduction in trend on violent crime.

In the meantime, our 17-year empirical study far exceeds any other research in the history of the social sciences in length and rigor.

2. More importantly, the published papers make no serious attempt to acknowledge and address alternative explanations for reduction in the factors comprising the Stress Index.

We have made a serious attempt to provide alternative explanations in every paper we have published on the Maharishi Effect. I am attaching two new papers by Drs. Dillbeck and Cavanaugh as examples. Again, the rigor of our research in addressing alternative explanations far exceeds any other research in the history of the social sciences.

In a broader context, you may be aware that the integrity of academic research in general is currently under scrutiny I am also attaching an article by Matt Ridley – a former science editor at The Economist and winner of the Hayek Prize - which details the major issues, including lack of rigour at many journals, the questionable value of peer reviews, the preoccupation of researchers with maintaining funding and the prevalence of 'p-hacking'. The clear suggestion is that research in an increasing number of areas is being driven more by ideology and self-interest than by science.

Yes, we are well-aware of some other people's attempts to undermine our research because we do it. But you can not assume that our vocal critics are objective. Please see the attached paper by Dr. Carla Brown, in which she documents through confidential interview that the opponents to our research are not rational but act out of base emotional reactivity. It's a classic reaction to a paradigm shift in science.
Of course, we will continue to try to conduct even more compelling and comprehensive research, and we thank you for your role in encouraging us to do that, but the reality is, as I understand it, is that only a further increase in coherence in collective consciousness will increase the acceptance of the research. More importantly, the first priority of our international organization is now, as it has always been, to create large groups to create the effect.
All the best,
David

10. David Laird email to David Orme-Johnson - Aug 30 2023

Thank you for your response to my email. Without wishing to belabour my earlier points, I would just make two observations.

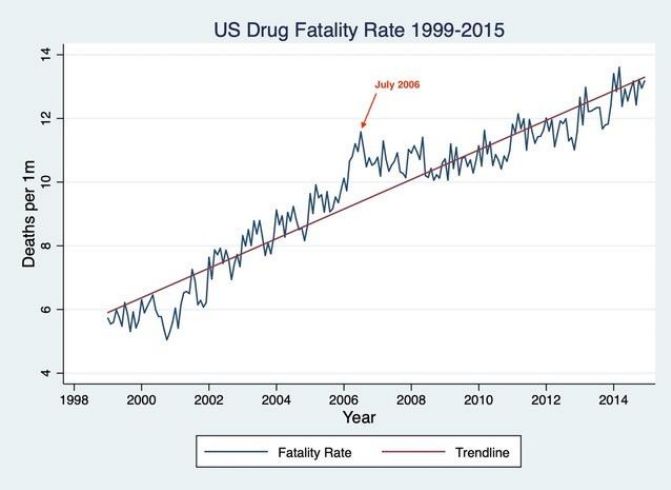
1. Dilbeck looks at only 3 alternative explanations for the slowing of the drug fatality rate:
- Economic disruption
- Reduction in opioid prescriptions
- Temperature

I suggest that there are many other possibilities that are worthy of investigation, including:
- Volume of illicit drug production
- Purity of street drugs
- Impact of FDA seizures
- Fluctuations in drug prices

2. It is generally accepted that the chosen timeframe can dramatically affect how trends are interpreted: we can tell different stories based on the length of the observation period. It is

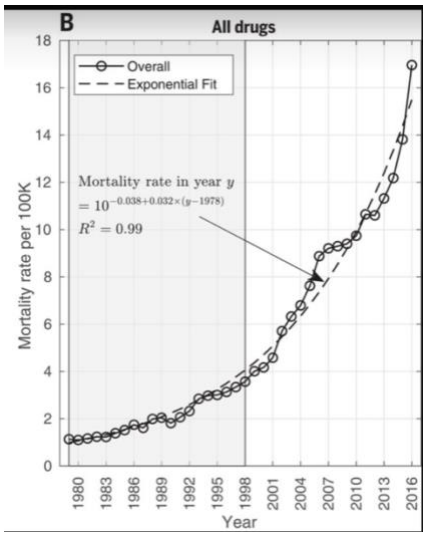
therefore important not to gravitate towards the timeframe that best suits what we believe to be true. The timeline chosen to demonstrate the Maharishi Effect tells one particular story, but it is not the only story. At least two others can be told if the timeframe is expanded.

In the first story, the anomaly is not the flattening of the curve in 2007, but the sharp jump in 2006.



In this story, the period from 2005-6 represents a short-term jump in fatalities, after which the curve gradually returns to the longer-term trendline which started in 1999.

The second story is about exponential growth lasting nearly four decades.



"The U.S. drug overdose epidemic has been inexorably tracking along an exponential growth curve since at least 1979. Although there have been transient periods of minor acceleration or deceleration, the overall drug overdose mortality rate has regularly returned to the exponential growth curve."

Jalal, Hawre et al., *Changing dynamics of the drug overdose epidemic in the United States from 1979 through 2016, Science*, September 21 2018

I'm not implying that either of these interpretations has greater validity than the Maharishi Effect. They do suggest, however, that the results of the Fairfield Study are best viewed in the context of broader historical trends which should be acknowledged and investigated in future papers.

David, I appreciate that you have taken time away from your many responsibilities to respond to my concerns. At this point, however, I feel I can no longer impose upon your goodwill. I have enjoyed our exchange, but I must now allow you to pursue your research without further interruption. As always, I wish you and your colleagues every success in your work.

Kind regards,
David